Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Improving Public Safety Communications in the 800 MHz Band	)	
	)	
	)	WT Docket No. 02-55
Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels	)	
	)	
	)	
	)	
	)	
	)	

Reply Comments of
Pinnacle West Capital Corporation

Pinnacle West Capital Corporation, an Arizona corporation ("**Pinnacle West**") hereby submits its reply comments (the "**Reply Comments**") to the Federal Communications Commission (the "**FCC**" or the "**Commission**") in response to the Commission's Notice of Proposed Rulemaking (the "**NPRM**"), in the Docket referenced above.[1] These Reply Comments supplement Pinnacle West's Initial Comments submitted to the FCC on May 6, 2002, both of which reflect the position of a Critical Infrastructure enterprise that is an FCC-licensee in the 800 MHz Band.[2]

I. Summary Restatement of Pinnacle West's Initial Comments

In addition to numerous technical recommendations made by Pinnacle West in Appendix A to its Initial Comments, Pinnacle West expressed its concern that the proposal submitted by Nextel would cause material adverse disruption to the crucial relationship between Critical Infrastructure (including utilities[3]) and Public Safety – especially in the wake of terrorist attacks in New York City and Washington, D.C. on September 11, 2001; that accordingly, Critical Infrastructure be afforded a higher priority

[1] Published in the Federal Register on April 5, 2002, Vol. 67, No. 66, at page 16352.

[2] Pinnacle West is the parent company of Arizona Public Service Company, Arizona's largest electric utility company.

[3] Indeed, under Section 13-2301(E)(8), Arizona Revised Statutes, "Critical Infrastructure [Resources]" is an amalgam of resources dedicated to public health, safety and welfare, including electric utilities, emergency services agencies, fire departments, and law enforcement agencies.

of consideration when determining how interference in the 800 MHz Band is to be addressed; that monetary compensation will not remedy the harm done to the public interest which will result if the partnering relationship among those which make up Critical Infrastructure is materially altered or dismantled; and that the FCC should reemphasize its commitment to continual active oversight of the 800 MHz Band by assuring that licensed users in the Band conduct their operations in a manner that is consistent with the terms and conditions under which they were issued licenses, failing which they be made to cease their use until they conform to such terms and conditions.

II. Pinnacle West's Reply Comments

A. Recommended Action

In the interim since filing its Initial Comments, Pinnacle West has participated in an active dialogue with other industry users, trade organizations and user groups and has identified a number of recommended action items coming from these discussions that are worth summarizing here for the FCC's consideration:

1. Pinnacle West has paid continuing attention to the UTC-sponsored forum that has addressed technical recommendations for improving public safety communications in the 800 MHz Band. Pinnacle West actively supports the recommendations of this group and urges the Commission to give careful consideration to UTC's recommendations, many of which echo the points enumerated in these Reply Comments.[4] Indeed before any action is taken to implement improvements, dialogues such those sponsored by the UTC should be fostered by the FCC in order that there be a complete understanding of the nature of the problem, its root causes and feasible solutions for the resolution of this important conflict.[5] In particular, consideration should be given to:

    - Beefing up the stringency and consistency of allowable emissions in the 700-, 800- and 900 MHz Bands.

    - Discouraging mandatory re-banding as an effective interference resolution tool.

    - Establishing interference mitigation standards in FCC regulations, including: (a) a definition of "harmful interference," (b) reaffirmation that the interferor bears the burden and cost of fixing the interference, even if he is utilizing his

[4] *See*, Attachment A to these Reply Comments, which includes the recommendations of the UTC's Technical Committee.

[5] UTC and other commenters like AMTA call upon the FCC to conduct a thorough technical examination of the interference problem in the 800 MHz band prior to deciding new re-banding rules. An FCC-sponsored group should include representatives from all user groups in the 800 MHz Band. The UTC forum that developed the Attachment A Recommendations might well serve as such a useful forum.

equipment within published specifications and (c) introduction of external filtering to mitigate interference.

2. Pinnacle West is opposed to any plan that ignores the need for near-term action in preference for a more drastic, disruptive long-term solution. Properly addressed, the resolution of the 800 MHz Band conflict needs to be managed in two separate and sequential proceedings: the first should identify and evaluate technical operating specifications for Band management, while the more complicated issues of reshuffling within the 800 MHz Band and among adjacent Bands is considered in the second proceeding.[6] Once rebanding begins, it is something that must be seen through to conclusion. Pinnacle West does not believe that such commitment exists today (in terms of important ingredients like sheer will-power, money and technology), nor that this is the right time to undertake such action, given recent events that place a premium on the efficacy of Critical Infrastructure. That does not suggest that the entire issue of 800 MHz Band conflicts be put on hold – it only begs the need for technically feasible, economic solutions that can address and perhaps eliminate some of the aspects of the conflict in the near-term without working needless hardships, disruption and dismantling of important resources.[7]

3. Pinnacle West believes that tighter oversight of current regulatory principles and requirements under which licenses to 800 MHz Band users are granted is a major ingredient in any attempt to effect a near-term LEAST COST solution to the present conflict. As Pinnacle West has indicated before, licensees should be made to live up to their commitments. If they stray, they should be made to shut down and fix the problems they cause, at their own expense. And even before they initiate their use, they should be required to consult with existing users who might be affected by their new use in order to identify foreseeable conflicts and available solutions – all under the oversight and guidance of the FCC.

4. The Commission should focus its attention on the interference caused by hybrid combiners in the 800 MHz Band, and further consider limiting their continued use. The overwhelming majority of commenters in this Docket identify this technology as a major source of spurious emissions. Hybrid combiners do nothing to filter

[6] In fact, the threshold consideration in this second proceeding necessarily needs to be whether rebanding is even desirable, given considerations resulting from the September 11 terrorist attacks in New York and Washington, the current economic situation in the United States and the overall benefits to be obtained from rebanding, when more effective, feasible and economic opportunities may be readily available. Given the considerable strategic challenges faced by our Nation at present, the timing of those who advocate rebanding at the present time is truly atrocious.

[7] Pinnacle West does not oppose all forms of near-term restructuring, provided they make sense. For instance, licensees may agree at the local level to exchange frequencies. This form of case-by-case reshuffling can eliminate some conflict in the Band through reduction of frequency interleaving. However, this should not be mandated for all cases, but rather should be left to licensees to consider on a case-by-case basis if their circumstances suggest that it makes sense. In all events, however, the FCC should make clear its intention to hold the parties to their deal and to require implementation of safeguards to assure the benefit of the bargain is achieved, *e.g.*, "clean" transmitters and emissions.

transmitter noise to acceptable levels and can tend to drift out of acceptable alignment tolerance, thereby contributing to interference problems. There are many cases on record with the Association of Public Safety Communication Officials ("APCO") which confirm that replacement of these devices with tuned cavity filter combiners have mitigated interference complaints.

5. Any resolution of the interference problem in the 800 MHz Band must be resolved at the expense of the interfering party. In the present case, no relocation of an existing user should be compelled unless the cost of the move is borne entirely by the interfering party. More importantly, no relocation should be forced upon an existing user unless the move will afford substantially the same quality of operation, *e.g.*, Critical Infrastructure users should not be transitioned to new bands where there are limitations in technology and hardware availability, resulting in entirely new burdens and limitations in use, not otherwise encountered in the 800 MHz Band.

6. The interfering party should be made to reduce power or cease operation until the interference is eliminated. This is an immediate fix that can be employed until the interference problem is fully studied and new rules can be placed in effect. In all events, offending users should be given no more than 60 days to correct the interference they cause. The first 30 days should be used to negotiate a satisfactory solution, and the second 30 days should used to implement remediation.

7. Nextel's proposed Band Plan is unacceptable because it proposes to use Critical Infrastructure as a buffer – which erodes the quality of the resource available to Critical Infrastructure to protect public safety.

8. Inasmuch as transmitters are the major source of interference in the 800 MHz Band, users of these offending transmitters should be required to employ band limiting filters and isolation devices to eliminate them as a contributing source of interference. Particularly in the instant case, Nextel needs to be required to conduct its operations in a manner that conforms to the representations it made in its application for licensed use – meaning that users who operate outside the authorized scope of their license should be required to conform their uses to the manner in which they were represented at the time the license was applied for and granted – failing which, they should be made to cease operation.

9. The practice of licensing more frequencies at a site than will reasonably be used should be stopped. Typically, up to 200 frequencies will be licensed, but only a fraction of those will actually be used. Employing the practice of limiting frequencies heightens compatibility among neighboring users by lowering the opportunity to "frequency hop" to the detriment of nearby licensees. When an application for licensed use is made to the FCC, careful consideration of the proposed use in relation to existing licensed uses should be made to *proactively* reduce the chance of interference and heighten compatibility.

10. The practice of misappropriating cross border frequencies for use in the United States needs to be stopped, as well. This practice is a glaring loophole in the FCC's regulatory scheme that contributes needlessly to the interference problem in the 800 MHz Band. At a minimum if Mexican frequencies are used on U.S. soil they need to be recorded in the Universal Licensing System.

11. A notification procedure should be considered as a possible means of managing the interference problem in the 800 MHz Band. A user proposing to introduce a new use should be made to notify existing area users before implementing the use. Existing area users are then afforded the opportunity to comment upon the proposed use and the impact it might have. Conflicts can thereby be identified ahead of time, addressed and hopefully remedied proactively. Unresolved conflicts can be referred to the FCC for final resolution.

12. Last, but not least, Pinnacle West supports the comments submitted on August 1, 2002, by the Small Business in Telecommunications group ("**SBT**"). Consistent with Pinnacle West's position, the SBT seek a balanced, equitable resolution of the issue of interference in the 800 MHz Band, such that innocent parties are not unduly burdened and interfering parties bear the responsibility for their interfering use in the Band. As SBT indicates, there is a need to promote greater cooperation among licensees as a material ingredient in interference avoidance. The FCC can provide the point of focus for achieving this through rules that achieve this end.

B. Other Material Observations

Not all information that has been published or exchanged in the dialogue generated by this Docket has been valuable or accurate, and in some cases, only promises to exacerbate the burdens caused by conflicting use in the 800 MHz Band. For instance, comments submitted by the Joint Commenters[8] include what is characterized as a compromise proposal presented by a representative body of *all* users in the 800 MHz Band.[9] According to sources available to Pinnacle West, the compromise proposal calls

[8] The Joint Commenters include: The Association of Public-Safety Communications Officials-International, Inc. (APCO); the International Association of Chiefs of Police (IACP); the International Association of Fire Chiefs, Inc. (IAFC) and International Municipal Signal Association (IMSA); the Major Cities Chiefs Association (MCC); the Major County Sheriffs' Association (MCSA); and the National Sheriffs' Association (NSA) (collectively, Public Safety Organizations); in conjunction with Aeronautical Radio, Inc. (ARINC); the American Mobile Telecommunications Association (AMTA); the American Petroleum Institute (API); Association of American Railroads (AAR); the Forest Industries Telecommunications (FIT); the Industrial Telecommunications Association, Inc. (ITA); MRFAC, Inc. (MRFAC); the National Association of Manufacturers (NAM); the National Stone, Sand and Gravel Association (NSSGA); the Personal Communications Industry Association (PCIA); Small Business in Telecommunications (SBT); and the Taxicab, Limousine and Paratransit Association (TLPA) (collectively, Private Wireless Coalition) and, notably, Nextel Communications, Inc. (Nextel)

[9] Pinnacle West is not a member of this coalition nor does its review of the list of participants reflect that the electric utility industry or its members are a part of or otherwise supports the compromise as a feasible solution to the problem of interference in the 800 MHz Band.

for the swapping of licensees in the Band; limited reimbursement of incurred costs to affected licensees; relocation of Critical Infrastructure to guardband positions (which erodes quality); and makes Nextel whole. Moreover, a basic flaw in the compromise is the absence of recognition that there is an *immediate* need to remedy the 800 MHz Band conflict. Yet another basic flaw in this proposal is that in respect to the Mexican Border Area, fully 100% of the proposed public safety allocation is currently allotted to Mexico. Realigning this to achieve the proposal's goal would trigger the need to renegotiate the governing treaty. Complete resolution of the conflict will not be achieved overnight, but the issue of interference can be effectively and proactively managed and mitigated until such time as the facts are fully appreciated and long-term solutions can be identified, studied and made ready for implementation.[10]

Another troubling position in this Docket is that presented by the Private Wireless Coalition in its May 6, 2002 submittal. Although it can be labeled as a "least pain" solution, it fails to emphasize the substantial need for in-depth, up-front technical study and solutions as a means to achieve needed near-term correction of interference in the 800 MHz Band, and, in effect, concedes that transition of public safety to the 700 MHz Band is an inevitability.[11] Moreover, it advocates that B/ILT be repositioned as a guard band, which perpetuates reliability concerns. Rather than moving plans like this to the top of the stack for implementation, the FCC should instead, as a matter of priority, protect the interests of incumbent licensees in the 800 MHz Band by instilling accountability and responsibility in those who have caused the interference problem in the first place. Locking in on a plan to relocate vital communications operations to the 700 MHz Band ignores the resources that were expended in good faith in reliance of licensed rights in the 800 MHz Band and overlooks the lack of substantively equivalent technology availability in the 700 MHz Band. The recommended transition still burdens those who had nothing at all to do with creating the problem. This seems fundamentally inequitable.

Pinnacle West is not at all swayed from its belief that a sound strategy to address 800 MHz Band conflicts today must be premised upon a two-phased approach which includes, as Phase I, careful technical evaluation of the problem, with corrective activity

[10] Because Pinnacle West has not seen the finally filed reply comments of the Joint Commenters' which include its proposal, it is assumed that the FCC will welcome and allow further supplements to these Reply Comments that afford interested parties the opportunity to present their opinions as to the compromise proposal presented by the Joint Commenters – and others, for that matter.

[11] The Private Wireless Coalition places substantial reliance upon the *Best Practices Guide* as a compilation of methods available to solve the problem of interference in the near-term. Pinnacle West does not believe the *Best Practices Guide* goes far enough to solve the problem, and is really an unacceptable solution. What is more appropriate as a resource for near-term problem avoidance is the establishment of a technical study group under the FCC's auspices that studies current problems, avoidance strategies and technological fixes, and recommends them to the FCC for codification in its regulations. This may yield a more complete and current set of practices that in turn may demonstrate the problem is largely resolvable if neighboring licensees cooperate and apply solutions and practices readily available today. This may well obviate any need for consideration of incumbent transition to neighboring Bands. Anything short of a serious plan and commitment to remedy the problem of interference in the 800 MHz Band amounts to nothing more than needless expense for the taxpayer.

in the near-term being premised on greater accountability by and cooperation among licensees in their operations in the 800 MHz Band – overseen and consistently enforced by the FCC; and with a longer term Phase II which evaluates the desirability and logistics of rebanding (*assuming a need for Phase II truly remains after application of near-term solutions in Phase I*).

Finally, Pinnacle West remains concerned that any analysis of the extent of use and interference in the 800 MHz Band be done carefully and accurately in order to appreciate the true nature of the problem and available near- and long-term solutions to remedy conflicts. Otherwise appreciation of the problem's characteristics and the desirability and feasibility of solutions will never be achieved – and precious time and resources will be wasted. On Tuesday, July 30, 2002, the FCC posted a 2,824 page document which comprises its response to a July 8, 2002 Congressional request for data regarding usage of the 800 MHz Band (the "**FCC Response**"). A reading of the FCC Response reflects what we believe to be the following errors and omissions:

1. The FCC Response includes data for the Phoenix-Mesa area.[12] It is evident that existing licenses at some of the major "high" sites surrounding the Phoenix area are not included (*e.g.*, White Tanks Mountains and Thompson Peak). These sites contain numerous public safety and B/ILT licenses.

   The high site omission is evident by the absence of channels in the top urban markets. For the Phoenix area 100 of the 600 channels (fully 16%) are unaccounted for in the FCC Response. Indeed, a sampling of other top 50 urban areas show these unaccounted for channels: Los Angeles -- 140, San Francisco -- 149, Denver -- 133, Sacramento -- 244, Memphis -- 99, Salt Lake City -- 164. It is common knowledge that in regard to the 800 MHz Band, channels in the major markets are 100% utilized.

   Inasmuch as the FCC proceeding in WT Docket No 02-55 is all about the incompatibility of new low site technology with traditional high site technology, the exclusion of a material number of high sites (and corresponding channels used by these licensees) is a significant omission that taints any conclusions that can be drawn from this analysis. Because the new technology uses city floor sites, the omission of the high sites significantly slants the data so that it appears that the new technology has a more dominate role then it really does.

   Footnote 6 at page 2 of the FCC Response states that sites outside of the urban area sites are not included because it would be too time consuming to complete in a timely manner. Nevertheless, Pinnacle West believes that the proper utilization of the 800 MHz Band is of such significance that it warrants inclusion of all sites within 55 to 70 miles of the urban areas noted, because

[12] FCC Response, "Exhibit 4 - Spreadsheet Summarizing the Data" at pages 73 through 78.

any sites within this range effectively serve the urban area, or prohibit new licenses that would serve the area.

2. The data included in the FCC Response omits the 3 megahertz of NPSPAC spectrum.[13] It would be helpful for any Band plan analysis to know how much of this Public Safety spectrum is really available in the major markets.

3. The scatter diagrams included in the FCC Response omit spectrum from 855.0125 to 856.0125 for all markets. For some unexplained reason the scale of the scatter diagrams changed. As this part of the spectrum contains a varied mixture of uses, the scatter diagram would be fundamentally necessary in analyzing current utilization. In Phoenix, this area of the spectrum is used heavily by B/ILT users.

Finally, Pinnacle West is wary of proposals for fixes that promise resolution but actually represent a glossing over or deferral of the problem to a later date. One can only wonder whether acquiescence to Nextel's proposal and those of others which call for a rebanding to the interferor's advantage is actually just pure precedent in disguise. The next time around, will interferors simply look to rebanding as *the* solution to conflicts in use, notwithstanding the facts, circumstances or equities? Where and when does the need for accountability and responsibility figure into the equation? Pinnacle West firmly believes that the "where" is in this very Docket, and the "when" is now.

III. Conclusion

Based upon the discussions in which Pinnacle West has participated, it is clear that there is no consensus of long-term solutions to the important problem of interference in the 800 MHz Band, despite the fact that the root causes are generally identified. Accordingly, the FCC should refrain from introducing new rules for rebanding to address this problem until there has been further technical study, leading to a complete appreciation of the problem and available solutions to fix interference in both the short- and long run. Interim measures can and should be taken, however, like requiring offending users to power down, filter their emissions or employ other temporary fixes to correct interference. Under no circumstances, however, should an existing user be made to accommodate or tolerate a conflicting later-in-time use – especially if the nature of the existing use is important to the protection of public health and safety. Any proposal for rebanding as *the* solution should be put on hold until less disruptive and more economic options have been identified, used and exhausted.

Thank you for this opportunity to present our views. As indicated in its Initial Comments, Pinnacle West would welcome the opportunity to discuss its position and recommendations with the FCC's staff in an effort to better appreciate the issues and needs for interference-free, reliable communications in the 800 MHz Band. Any questions on our submittal should be directed to Mr. Jeffrey M Pell, IS Group Manager,

[13] FCC Response, "Explanation of the Data and Charts", at page 2, footnote 5.

Engineering & Construction, at (602) 371-6363, Jeff.Pell@pinnaclewest.com, who serves as point-of-contact for the Company on matters of telecommunications.

Respectfully submitted as of this 7th day of August, 2002.

PINNACLE WEST CAPITAL CORPORATION

BY: /s/ Denny Brown

Denny Brown
Vice President, Information Services & CIO

ATTACHMENT A:

UTC TECHNICAL RECOMMENDATIONS

IMPROVING PUBLIC SAFETY COMMUNICATIONS IN THE 800 MHz BAND

FCC WT Docket No. 02-55

I. Modify the FCC Regulations with respect to allowable emissions for the 700 MHz, 800 MHz, and 900 MHz bands to be more stringent and consistent.

1. Adopt ACCP instead of the current "FCC Emission Mask" for equipment used in the 800 MHz and 900 MHz bands, similar to the current 700 MHz rules. If adopted, these standards would replace the current relevant FCC Regulations for each segment of the 800 MHz and 900 MHz bands and would require new ACCP tables be developed.

2. Adopt 47 CFR 27.53, Emission Limits, for 800 MHz and 900 MHz communications systems to afford improved and consistent adjacent channel protection from CMRS transmissions in these 800 MHz and 900 MHz band segments. Particularly, the 76 +10 log(P) dB OOBE attenuation requirement for bases and fixed stations should be adopted throughout these bands.

3. Adopt the "APCO Best Practices" recommendation to require that user receiver equipment provide a minimum of 75 dB intermodulation specification.[14] [15] [16]

II. Establish interference mitigation standards in FCC Regulations.

1. The FCC should codify and adopt its policy that the interferor shall fix reported interference, even if the interfering equipment is operating within published specifications while causing the interference.

2. The FCC should codify and adopt a standard defining a reduction in system reliability reduction of > 1%[17] as "harmful interference." UTC recommends the standards found in Part 101 of the Commission's Rules be adopted to determine how system reliability is measured. The FCC should codify and amend the regulations as necessary to allow for external filtering and other added equipment to be used to reduce or eliminate interference.

---

[14] See Page 14, APCO Best Practices Guide, December, 2000
[15] See Page 44, Motorola's Interference Technical Appendix, Issue 1.41, February 2002
[16] See Attachment 5, Six Month Status Report of the Project 39 Technical Committee, March 19, 2002
[17] See Page 126, National Coordinating Committee – Implementation Subcommittee, Appendix O, http://npstc.du.edu/documents/IM00039-P024-Appendix-O.pdf

III. Modify the licensing and coordination procedures to include review of Adjacent Channel spacing for all "non-EA" frequencies.

1. Adjacent channel spacing standards should be established for use in frequency coordination, and frequency coordinators should review the spacing of channels adjacent to the frequency under consideration, as well as the co-channel spacing, during the coordination process.

2. CMRS operators should be required to notify authorized 800/900 MHz frequency coordinators thirty days in advance of initiating transmissions from a new cellsite when any of the frequencies to be used at the cellsite is a Business, Industrial/Land Transportation, or Public Safety channel.

The above rule revisions are recommended, not only to resolve current interference problems, but to create rules for "good behavior" for all parties using these bands as they progress toward implementation of advanced technology and greater spectrum efficiency.